

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
REGION 9, SAN DIEGO REGION**

ATTACHMENT F

FACT SHEET

**ORDER NO. R9-2005-0091
NPDES PERMIT NO. CA0107336**

TABLE OF CONTENTS

Table of Contents	1
Attachment F – Fact Sheet	3
I. Permit Information.....	3
II. Facility Description	4
A. Description of Wastewater Treatment or Controls	5
B. Outfalls and Receiving Waters	5
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data	6
D. Compliance Summary	8
E. Planned Changes (Not Applicable).....	9
III. Applicable Plans, Policies, and Regulations.....	9
A. Water Quality Control Plans	9
B. Other Applicable Water Quality Plans, Policies and Regulations	10
C. Impaired Water Bodies on CWA 303(d) List	12
IV. Rationale For Effluent Limitations and Discharge Specifications	12
A. Discharge Prohibitions	13
B. Technology-Based Effluent Limitations	14
1. Scope and Authority	14
2. Applicable Technology-Based Effluent Limitations (Not Applicable)	14
C. Water Quality-Based Effluent Limitations (WQBEL)	14
1. Scope and Authority	14
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	15
3. Determining the Need for WQBEL	17
4. WQBEL Calculations.....	18
5. Whole Effluent Toxicity (WET)	25
D. Final Effluent Limitations.....	26
E. Interim Effluent Limitations (Not Applicable).....	30
F. Land Discharge Specifications (Not Applicable)	30
G. Reclamation Specifications (Not Applicable)	30
V. Rationale for Receiving Water Limitations	31
A. Surface Water.....	31
B. Groundwater (Not Applicable).....	31
VI. Monitoring and Reporting Requirements.....	31
A. Influent Monitoring	31
B. Effluent Monitoring.....	32
C. Whole Effluent Toxicity Testing Requirements.....	33
D. Receiving Water Monitoring.....	34
1. Surface Water	34
2. Groundwater (Not Applicable)	34
E. Other Monitoring Requirements.....	34
VII. Rationale for Provisions.....	34
A. Standard Provisions.....	34
B. Special Provisions.....	35

1.	Re-Opener Provisions	35
2.	Special Studies and Additional Monitoring Requirements	35
3.	Best Management Practices and Pollution Prevention	37
4.	Compliance Schedules (Not Applicable)	37
5.	Construction, Operation, and Maintenance Specifications (Not Applicable)	37
6.	Special Provisions for Municipal Facilities (POTWs Only) (Not Applicable)	37
VIII.	Public Participation	38
A.	Notification of Interested Parties	38
IX.	Written Comments	38
X.	Public Hearing	38
XI.	Information and Copying	39
XII.	Register of Interested Persons	39

LIST OF TABLES

Table 1.	Facility Information.	3
Table 2.	Daily Flow Volumes	5
Table 3.	Effluent Limitations and Monitoring Data for Outfall No. 001.	6
Table 4.	Effluent Limitations and Monitoring Data for Outfall No. 002.	7
Table 5.	Compliance Summary - Outfall No. 001 (East)	8
Table 6.	Compliance Summary - Outfall No. 002 (West)	9
Table 7.	Effluent Limitation Exceedences	9
Table 8.	Beneficial Uses of Mission Bay.	10
Table 9.	Bacteriological Criteria for Water Contact Recreation (in salt water)	16
Table 10.	Summary of Water Quality-Based Effluent Limitations.	21
Table 11.	Summary of WQBEL for Outfall No. 001 (East) -- Monitoring Location 001	23
Table 12.	Summary of WQBEL for Outfall No. 002 (West) -- Monitoring Location 002	24
Table 13.	Effluent Limitations for Outfall No. 001 (East)	29
Table 14.	Effluent Limitations for Outfall No. 002 (West)	30
Table 15.	Influent Monitoring Requirements.	32
Table 16.	Effluent Monitoring Requirements	33
Table 17.	Storm Water By-Pass Sampling	37

LIST OF EXAMPLES

Example 1.	WQBEL Calculations According to the SIP	18
Example 2.	WQBEL Calculations According to the Ocean Plan	21

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the specific legal requirements and detailed technical rationale that serve as the basis for the requirements of this Order.

I. PERMIT INFORMATION

Administrative information for the Facility is summarized in *Table 1. Facility Information.*

Table 1. Facility Information.

WDID	9 000000083
Discharger	Anheuser-Busch, Inc.
Name of Facility	SeaWorld, City of San Diego
Facility Address	500 SeaWorld Drive
	San Diego, CA 92109
	San Diego County
Facility Contact, Title and Phone	Kevin Carr, Environmental Director, (619) 226-3934
Authorized Person to Sign and Submit Reports	Andrew Fischthorn, Executive Vice President and General Manager, (619) 226-3934
Mailing Address	500 SeaWorld Drive, San Diego, CA 92109
Billing Address	500 SeaWorld Drive, San Diego, CA 92109
Type of Facility	Amusement Park, SIC # 7995
Threat to Water Quality	2
Complexity	A
Pretreatment Program	NA
Reclamation Requirements	None
Facility Permitted Flow	Total of 9.36 million gallons per day (mgd)
Facility Design Flow	Total of 9.36 mgd
Watershed	
Receiving Water	Mission Bay
Receiving Water Type	Bay

Anheuser-Busch, Inc. (hereinafter Discharger) is the owner and operator of SeaWorld (hereinafter Facility) an amusement park.

The Facility discharges wastewater to Mission Bay, a water of the United States and is currently regulated by Regional Board Order No. 2000-25 which was adopted on April 12, 2000 and expired on March 8, 2005. Order No. 2000-25 was administratively continued after the permit expiration date.

On November 19, 2004 the Discharger submitted a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDR) and National Pollutant Discharge Elimination System (NPDES) permit. On January 26, 2005 supplemental information was requested, and was received on January 27, 2005. An NPDES inspection was

conducted on February 17, 2005 to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

SeaWorld is an Anheuser-Busch Adventure Park located on Mission Bay in San Diego, California. The Facility is primarily an aquatic amusement park and houses various marine animals and consists of approximately 189.4 acres. The Discharger pumps seawater from Mission Bay through two intake structures, an East and West intake, for use in its mammal pools, aquaria, and other exhibits.

The West Intake consists of two pumps that pump up to 6.12 million gallons per day (mgd) of seawater from Mission Bay to either a set of filters for mammal pools or a set of filters for fish exhibits. The East Intake consists of four pumps with a total capacity to pump up to 3.24 mgd of seawater into the Facility. Both intake streams are separate and each contains its own treatment system and outfall.

Seawater pumped from Mission Bay is filtered and disinfected to produce a suitable habitat for the exhibit animals tolerant to chlorine. For exhibit animals sensitive to chlorine, the intake water is filtered and treated using ozonation and ultraviolet (UV) treatment.

Approximately 88,000 gallons a day of backwash water from the intake filters is discharged into the sanitary sewer system.

The Facility contains two effluent treatment systems, one located on the east side of the Facility, and one located on the west side of the Facility. Both treatment systems are similar.

Prior to discharge, wastewater streams on each side of the Facility combine with a storm water stream originating from storm drains located throughout the site. Storm drains located in areas with a history of high solids accumulation have had filters installed. The combined effluent stream is chlorinated, velocities are reduced to induce settling, and the combined waste stream is discharged to Mission Bay.

The inspection report for the NPDES compliance inspection conducted on February 11, 2004 notes that during large storms and after the treatment system is at full capacity, storm water is by-passed directly to Mission Bay. Prohibition A.4. of the current Order prohibits aquaria and pool draining operations upon the commencement of a storm event. During the February 11, 2004 inspection, it was noted that the Facility representative stated that storm water bypasses occur roughly 2 - 3 times a year. During the most recent NPDES compliance inspection, conducted on February 17, 2005, it was noted that the storm water collection system remains unchanged from the current report description. During the February 17, 2005 inspection, the Facility representative stated that since January 2005 at least six storm water by-passes have occurred. Two storm water by-pass points are located in the West treatment/collection system, four storm water by-pass points are located in the East treatment/collection system. Various storm water by-pass discharge points were observed during the February 17, 2005 inspection. Receiving water impairment was not observed on the date of the inspection.

Provision E.33 of Order No. 2000-25 requires the Discharger to develop and implement a 12-month study of potential eutrophication impacts from the Facility on Mission Bay. The study evaluated dissolved oxygen, BOD, nitrates and phosphates in the effluent and the receiving water area. On January 18, 2002, the eutrophication study report was completed. The study concluded that the effluent discharges from the Facility are not causing eutrophication in Mission Bay.

A. Description of Wastewater Treatment or Controls

The East and West Effluent Treatment facilities are chlorination/dechlorination treatment systems. The wastewater is filtered through 1-inch stainless steel screens. Diversion chambers transfer the water to chlorine contact chambers. Sodium hypochlorite is injected at three prechlorination points in each collection system prior to the contact chamber. A final sodium hypochlorite injection point is located just prior to the contact chamber. Residual chlorine is neutralized prior to discharge to Mission Bay by the injection of sodium bisulfate (West side) or sodium sulfate (East side).

The effluent treatment systems are designed to accommodate a total combined maximum effluent flow of 9.36 MGD. The daily flow data submitted by the Discharger to this Regional Board between April 1, 2000 through May 31, 2004, in accordance with Monitoring and Reporting Program No. 2000-25 is summarized in *Table 2. Daily Flow Volumes*.

Table 2. Daily Flow Volumes.

	East Outfall	West Outfall	Total (West and East)
Average Flow	1.13	2.01	3.14
Maximum Flow	2.11	4.224	5.73

Flow diagrams for the East and West intake and discharge systems are provided in Attachment C.

B. Outfalls and Receiving Waters

The Discharger proposes to discharge up to 9.36 MGD of wastewater from exhibit pools, intermittent flows during pool draining and cleaning operations, runoff from landscape irrigation, and facility wash down water. Storm water is also discharged during rain events. The combined treated wastewater is discharged to Mission Bay through two outfalls. Outfall No. 001 (East) has a maximum discharge rate of 3.24 MGD and is located at 32° 46' 03" North latitude and 117° 13' 33" West longitude. Outfall No. 002 (West) has a maximum discharge rate of 6.12 MGD and is located at 32° 46' 04" North latitude and 117° 13' 40" West longitude.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the existing Order for discharges from Outfall No. 001 (East) (Monitoring Location 001) and representative monitoring data from the term of the current Order are summarized in *Table 3. Effluent Limitations and Monitoring Data For Outfall No. 001.*

Table 3. Effluent Limitations and Monitoring Data for Outfall No. 001.

Parameter (units)	Effluent Limitations				Data from April 2000 through May 2004		
	6 Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	6 Month Median	Highest Average Monthly Discharge	Highest Daily Discharge ¹
Flow (MGD)	--	--	3.24	--	--	--	2.114
Temperature (°C)	--	--	--	--	--	--	23
pH (units)	--	--	--	7.0 – 9.0 ²	--	--	6.8 – 8.0 ³
Enterococcus (CFU/100 mL)	--	35	--	104	--	57.6 ⁴	280 ⁴
Fecal Coliform (MPN/100 mL)	Narrative ⁵				--	6.93 ⁶	2,400
Total Coliform (MPN/100 mL)	Narrative ⁷				--	50 ⁸	5,000
Total Chlorine Residual (mg/L)	--	0.21	--	0.42	--	0.066	0.24
Suspended Solids (mg/L) ⁹	--	10	15	--	--	66.5	115
Settleable Solids (ml/L)	--	1.0	--	3.0	--	<0.2	<0.2
Halomethanes (µg/L)	--	2,900	--	--	--	106	--
Grease and Oil (mg/L)	--	25	--	75	--	6	6
Turbidity (NTU)	--	75	--	225	--	<10	<10
Silver ¹⁰ (µg/L)	6.5	--	36	96	7.5	--	20
Copper ¹⁰ (µg/L)	24	--	220	620	8.72	--	29.9
Ammonia (mg/L)	--	--	--	0.55	--	--	0.66
Acute Toxicity (TUa)	--	1.5	--	2.5	--	0.97	--
Chronic Toxicity (TUC)	--	--	22	--	--	--	11

¹ Values also applicable to Instantaneous Maximum effluent limitations

² Within the limits of 7.0 and 9.0 at all times

³ The lowest pH value reported to this Regional Board from April 2000 through May 2004 by the Discharger was 6.8 (units). The highest pH value reported to this Regional Board from April 2000 through May 2004 was 8.0 (units).

⁴ Reported as MPN/100 mL.

⁵ The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.

⁶ Monthly log mean

⁷ The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube dilution test is used.

⁸ 30-day median

- ⁹ The discharge of aquaria wastewater through the East and West outfalls shall contain no significant increase in the concentration of total suspended solids when compared to the intake water. Significant increase is defined as an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum. The discharger shall also remove 75% of the suspended solids from the influent stream any time that the influent suspended solids concentrations exceeds four times the effluent limits.
- ¹⁰ These metals shall be expressed as total recoverable.
- ¹¹ Chronic Toxicity tests were performed using three species: bay mussel (*Mytilus galloprovincialis*), giant kelp (*Macrocystis pyrifera*), and Pacific top smelt. Results from the three sets of toxicity test consistently demonstrated an absence of chronic toxicity.

Effluent limitations contained in the existing Order for discharges from Outfall No. 002 (West) (Monitoring Location 002) and representative monitoring data from the term of the current Order are summarized in *Table 4. Effluent Limitations and Monitoring Data for Outfall No. 002.*

Table 4. Effluent Limitations and Monitoring Data for Outfall No. 002.

Parameter (units)	Effluent Limitations				Data from April 2000 through May 2004		
	6 Month Median	Average Monthly	Maximum Daily	Instantaneous Maximum	6 Month Median	Highest Average Monthly Discharge	Highest Daily Discharge ¹
Flow (MGD)	--	--	6.12	--	--	--	4.224
Temperature (°C)	--	--	--	--	--	--	22.8
pH (units)	--	--	--	7.0 – 9.0 ²	--	--	7 – 8.0 ³
Enterococcus (CFU/100 mL)	--	35	--	104	--	7 ⁴	22 ⁴
Fecal Coliform (MPN/100 mL)	Narrative ⁵				--	11.51 ⁶	1,700
Total Coliform (MPN/100 mL)	Narrative ⁷				--	150 ⁸	3,000
Total Chlorine Residual (mg/L)	--	0.21	--	0.42	--	0.05	0.37
Suspended Solids (mg/L) ⁹	--	Intake + 10	Intake + 15	--	--	68	126
Settleable Solids (ml/L)	--	1.0	--	3.0	--	<0.2	<0.2
Halomethanes (µg/L)	--	2,900	--	--	--	72.4	--
Grease and Oil (mg/L)	--	25	--	75	--	<5	<5
Turbidity (NTU)	--	75	--	225	--	<10	<10
Silver ¹⁰ (µg/L)	6.5	--	36	96	6.5	--	20
Copper ¹⁰ (µg/L)	24	--	220	620	12.2	--	28.5
Ammonia (mg/L)	--	--	--	0.55	--	--	0.28
Acute Toxicity (TUa)	--	1.5	--	2.5	--	0.69	--
Chronic Toxicity (TUC)	--	--	22	--	--	--	¹¹

¹ Values also applicable to Instantaneous Maximum effluent limitations

² Within the limits of 7.0 and 9.0 at all times

³ The lowest pH value reported to this Regional Board from April 2000 through May 2004 by the Discharger was 7 (units). The highest pH value reported to this Regional Board from April 2000 through May 2004 was 8.0 (units).

⁴ Reported as MPN/100 mL.

- ⁵ The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.
- ⁶ Monthly log mean
- ⁷ The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube dilution test is used.
- ⁸ 30-day median
- ⁹ The discharge of aquaria wastewater through the East and West outfalls shall contain no significant increase in the concentration of total suspended solids when compared to the intake water. Significant increase is defined as an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum. The discharger shall also remove 75% of the suspended solids from the influent stream any time that the influent suspended solids concentrations exceeds four times the effluent limits.
- ¹⁰ These metals shall be expressed as total recoverable.
- ¹¹ Chronic Toxicity tests were performed using three species: bay mussel (*Mytilus galloprovincialis*), giant kelp (*Macrocystis pyrifera*), and Pacific top smelt. Results from the three sets of toxicity test consistently demonstrated an absence of chronic toxicity.

D. Compliance Summary

Effluent exceedences are summarized in *Table 5. Compliance Summary – Outfall No. 001 (East)* and *Table 6. Compliance Summary – Outfall No. 002 (West)*.

Table 5. Compliance Summary - Outfall No. 001 (East).

Constituent	Monitoring Period	Type of Limit	Limit	Reported Value
Silver	1st Semi-annual 2000	6-month Median	6.5 ug/L	7.5 ug/L
Ammonia	2nd Semi-annual 2000	Daily Maximum	0.55 mg/L	0.66 mg/L
Suspended Solids	3rd Quarter 2000	Monthly Average	intake + 10 mg/L	66.5 mg/L (+48.5 mg/L)
Suspended Solids	3rd Quarter 2000	Daily Maximum	intake + 15 mg/L	115 mg/L (+107 mg/L)
Enterococcus	July 2000	Instantaneous Maximum	104 CFU/100 mL	130 MPN/100 mL
Enterococcus	Aug. 2000	Instantaneous Maximum	104 CFU/100 mL	220 MPN/100 mL
pH	Aug. 2002	Instantaneous maximum	between 7 - 9 units	6.8 units
Enterococcus	Oct. 2002	Instantaneous Maximum	104 CFU/100 mL	280 MPN/100 mL
Enterococcus	Oct. 2002	Monthly Average	35 CFU/100 mL	57.6 MPN/100 mL

Table 6. Compliance Summary - Outfall No. 002 (West).

Constituent	Monitoring Period	Type of Limit	Limit	Reported Value
Total Coliform	July 2000	1	1	300/100 mL
Total Coliform	August 2000	1	1	300/100 mL
Total Coliform	August 2000	Monthly Median		150/100 mL
Total Coliform	August 2002	1	1	3,000/100 mL
Fecal Coliform	August 2002	2	2	1,700/100 mL

- 1 The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five tube decimal dilution test or 330/100 mL when a three tube dilution test is used.
- 2 The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 40/100 mL.

During the NPDES compliance inspection conducted on February 17, 2005, effluent data from May 2004 through December 2004 were reviewed. Effluent limitation exceedences were identified from the Outfall No. 002 (West) and are summarized in *Table 7. Effluent Limitation Exceedences*.

Table 7. Effluent Limitation Exceedences.

Constituent	Monitoring Period	Type of Limit	Limit	Reported Value
Total Suspended Solids	December 2004	Monthly Average	11.5 mg/L (intake + 10)	40 mg/L
Total Suspended Solids	December 2004	Daily Maximum	16.1 mg/L (intake + 15)	40 mg/L

This Regional Board noted no other compliance issues during the current permit term.

E. Planned Changes (Not Applicable)

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

In addition to the regulatory framework established in the Findings of Order No. R9-2005-0091, the requirements contained in the Order are based on the requirements and authorities described in this section.

A. Water Quality Control Plans

On September 8, 1994 this Regional Board adopted a revised *Water Quality Control Plan for the San Diego Basin (9)* (herein after, Basin Plan). The Basin Plan contains water quality objectives and beneficial uses for surface waters and groundwaters in the San Diego Basin. Existing beneficial uses for receiving waters are listed in *Table 8. Beneficial Uses of Mission Bay*.

Table 8. Beneficial Uses of Mission Bay.

Outfall Number	Receiving Water Name	Beneficial Use(s)
001 and 002	Mission Bay	<p><u>Existing:</u></p> <p>Industrial Services Supply (IND)</p> <p>Contact Water Recreation (REC1)</p> <p>Non-contact Water Recreation (REC2)</p> <p>Commercial and Sport Fishing (COMM)</p> <p>Estuarine Habitat (EST)</p> <p>Rare, Threatened, or Endangered Species (RARE)</p> <p>Marine Habitat (MAR)</p> <p>Migration of Aquatic Organisms (MIGR)</p> <p>Wildlife Habitat (WILD)</p> <p>Shellfish Harvesting (SHELL)</p> <p><u>Intermittent:</u></p> <p>None.</p> <p><u>Potential:</u></p> <p>None.</p>

B. Other Applicable Water Quality Plans, Policies and Regulations

1. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), last amended on January 1, 2005, establishes the State Water Resources Control Board (State Board), and the Regional Boards as the principle state agencies responsible for control of water quality. The Porter-Cologne Act empowers the Regional Boards to formulate and adopt, for all areas within the regions, a Water Quality Control Plan (Basin Plan) which designates beneficial uses and establishes water quality objectives. Further, the Plan designates the Regional Boards with the authority to issue waste discharge requirements to regulate the discharge of waste to surface and ground waters of the state.

2. Ocean Plan

On November 16, 2000 the SWRCB adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan). The Ocean Plan establishes water quality objectives for bacterial, physical, chemical, and biological characteristics, and for radioactivity. Further, the Ocean Plan establishes general requirements for management of waste discharge to the ocean, quality requirements for waste discharges, discharge prohibitions, and general provisions.

Permit prohibitions and objectives found in Order No. R9-2005-0091 are derived from the Basin Plan and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). Beneficial uses to Mission Bay are similar to those of the ocean waters of the State. In order to protect the beneficial uses of Mission Bay, discharge specifications for some parameters in this Order were derived from the Ocean Plan.

3. Thermal Plan

The State Water Resources Control Board (hereinafter State Board) adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this Plan on September 18, 1975. The Plan contains temperature objectives for inland surface waters and enclosed bays and estuaries.

4. National and California Toxic Rules

U.S. EPA adopted the *National Toxics Rule* (NTR) on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the *California Toxics Rule* (CTR) on May 18, 2000, which was amended on February 13, 2001. These Rules contain water quality standards for priority pollutants applicable to this discharge.

5. State Implementation Policy

On March 2, 2000, The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). On April 28, 2000, the SIP became effective for regulating discharges of priority pollutant criteria promulgated for California by the U.S. EPA through National Toxics Rule (NTR) and for priority pollutant objectives established by the Regional Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by the U.S. EPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. On May 18, 2000, the SIP became effective for regulating priority pollutant criteria promulgated by the U.S. EPA through the CTR.

6. Establishing Limitations

Pursuant to 40 CFR 122.44(a) permits must include applicable technology-based limitations and standards. Section 122.44(d) requires that permits include water quality-based effluent limitations (WQBEL) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR 122.44(d) specifies that WQBEL may be established using U.S. EPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.

7. Anti-Degradation

Pursuant to 40 CFR 131.12 the State water quality standards must include an anti-degradation policy consistent with the Federal policy. The State Board established California's anti-degradation policy in State Board Resolution No. 68-16, which incorporates the requirements of the Federal anti-degradation policy. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified. The permitted discharge complies with the anti-degradation provision of 40 CFR 131.12 and State Board Resolution No. 68-16.

8. Anti-Backsliding Requirements

Sections 402(o)(2) and 303(d)(4) of the Clean Water Act (CWA) and federal regulations at 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the current permit, with some exceptions where limitations may be relaxed. Based on new data provided by the Discharger, an effluent limitation for halomethanes has not been continued from the current permit. The removal of the effluent limitation for halomethanes is in compliance with all State and Federal Anti-Backsliding requirements. All other effluent limitations contained in this Order are at least as stringent as the effluent limitations in the current Order.

9. Current Order

In some cases, existing waste discharge requirements and permit conditions (effluent limitations and other special conditions) contained in Order No. 2000-25 have been continued in this permit.

C. Impaired Water Bodies on CWA 303(d) List

Section 303(d) of the CWA requires states to identify water bodies where water quality standards are not expected to be met after technology-based effluent limitations have been implemented for point sources. For all 303(d)-listed water bodies and pollutants this Regional Board plans to develop total maximum daily load (TMDL) allocations that will specify waste load allocations (WLA) for point sources and load allocations (LA) for non-point sources.

The U.S. EPA has approved the State's 303(d) list of impaired water bodies. Certain receiving waters in the San Diego County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2002 303(d) list and have been scheduled for TMDL development.

The 2002 State Board's California 303(d) list classifies Mission Bay as impaired because of bacteria, lead and eutrophication. Currently there is no proposed date for the TMDL completion for any of these pollutants in the receiving water body. Upon the completion of the TMDL for Mission Bay, this Regional Board may reopen this Order to include TMDL allocations.

The Discharger chlorinates and dechlorinates the effluent prior to discharge to Mission Bay. It is unlikely the Discharger will contribute to the impairment of the water body for bacteria indicators. The Discharger conducted an eutrophication study during 2000 – 2001 and concluded that the effluent from the Facility is not causing or contributing to eutrophication in Mission Bay. Available effluent data does not indicate that the Discharger will contribute to the impairment of the receiving water for lead.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source discharges to control the amount of conventional, nonconventional, and toxic pollutants that are discharged into the waters of the United States.

The control of the discharge of pollutants is established through effluent limitations and other requirements in NPDES permits. The CWA establishes two principal basis for effluent limitations. First, dischargers are required to meet technology-based effluent limitations that are established using cost factors, technical factors, and economic impact factors. Second, dischargers are required to meet WQBEL that are needed to protect beneficial uses of the receiving water.

The Discharger has installed pipe reducers at each of the two submerged discharge outfall pipes. The reducers increase the initial zone of dilution to a factor of 21:1 for each of the two discharge outfalls. A dilution factor of 21:1 has been allowed for discharges from Outfall Nos. 001 and 002 for chronic toxicity, ammonia, chlorine residual, copper, and silver.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, California Water Code, and previous permit provisions, and are consistent with the requirements set for other discharges regulated by NPDES permits adopted by this Regional Board.

1. Compliance with Discharge Prohibitions contained in the Basin Plan is a requirement of this Order.
2. Discharges of wastes in a manner or to a location which have not been specifically authorized by this Order and for which valid waste discharge requirements are not in force are prohibited.
3. Aquaria and pool draining operations are prohibited during a storm water by-pass discharge event in order to minimize the use of the storm water by-passes at Outfall Nos. 001 and 002.
4. The discharge of wastewater and storm water in excess of the effluent limitations in Section IV.D. of this Fact Sheet are prohibited unless the Discharger obtains revised waste discharge requirements authorizing an increased discharge.
5. The discharger shall not cause pollution, contamination, or nuisance, as those terms are defined in CWC 13050, as a result of the treatment or discharge of wastes.
6. Collected screenings, sludge, and other solids removed from liquid wastes, shall be disposed of in a manner approved by this Regional Board.
7. Odors, vectors, and other nuisances of waste origin beyond the limits of the property controlled by discharger are prohibited.

B. Technology-Based Effluent Limitations

1. Scope and Authority

The CWA requires that technology-based effluent limitations be established based on several factors:

- a. Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- c. Best conventional pollutant control technology (BCT) is a standard for the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after evaluating the cost of attaining a reduction in pollutant discharge, the benefits that would result, and the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) that represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that implement new treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELG), BPT, BCT, BAT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to develop technology-based effluent limitations on a case-by-case basis where ELG are not available. Where BPJ is used, the permit writer must comply with 40 CFR 125.3.

The discharges from the Facility do not have ELG.

2. Applicable Technology-Based Effluent Limitations (Not Applicable)

C. Water Quality-Based Effluent Limitations (WQBEL)

1. Scope and Authority

As specified in 40 CFR § 122.44(d)(1)(i), permits are required to include WQBEL for pollutants (including toxicity) that are or may be discharged at levels which cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBEL when necessary is intended to protect the designated uses for the receiving

water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria (that are contained in other state plans and policies, or water quality criteria contained in the CTR and NTR).

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan establishes water quality objectives (for bacterial, physical, chemical, and biological characteristics, and for radioactivity), general requirements for management of waste discharged to the inland surface waters, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions, to protect beneficial uses.

Beneficial uses of Mission Bay are similar to those of the ocean. The Ocean Plan establishes water quality objectives for bacterial, physical, chemical, and biological characteristics, and for radioactivity. Further, the Ocean Plan establishes general requirements for management of waste discharge to the ocean, quality requirements for waste discharges, discharge prohibitions, and general provisions. In order to protect the beneficial uses of Mission Bay, discharge specifications for some parameters in this Order were derived from the Ocean Plan.

The Basin Plan establishes narrative water quality objectives for toxicity. The Basin Plan states that all waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Ocean Plan establishes numeric effluent limitations for acute toxicity and chronic toxicity.

The Basin Plan establishes a numeric water quality objective for un-ionized ammonia. The Basin Plan states that the discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L (as N) in inland surface waters, enclosed bays and estuaries and coastal lagoons.

The Basin Plan does not contain objectives for total residual chlorine, however it does contain narrative objectives prohibiting discharges that cause toxicity to aquatic organisms. This Regional Board has determined that residual chlorine is toxic to aquatic life. Numeric effluent limitations for residual chlorine were calculated using the effluent limitations contained within Table B of the Ocean Plan and compared to the current effluent limitations. The current effluent limitations are more stringent.

The Basin Plan establishes narrative water quality objectives for oil and grease. The Basin Plan states that waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or which otherwise adversely affect beneficial uses. Table A of the Ocean Plan establishes numeric effluent limitations for oil and grease. A monthly average effluent limitation of 25 mg/L and a daily maximum effluent limitation of 75 mg/L have been established based on the effluent limitations contained in the Ocean Plan.

The Basin Plan establishes narrative water quality objectives for pH. The Basin Plan prohibits the changes in normal ambient pH levels by 0.2 units in water bodies with designated marine, or estuarine, or saline beneficial uses. Further, the Basin Plan states that the pH of bays and estuaries shall not be depressed below 7.0 nor raised above 9.0.

The Basin Plan establishes numeric water quality objectives for enterococcus based on the U.S. EPA Bacteriological Criteria for Water Contact Recreation. The enterococci criteria for salt water are listed in *Table 9. Bacteriological Criteria for Water Contact Recreation (in salt water)*.

Table 9. Bacteriological Criteria for Water Contact Recreation (in salt water).

Contact/Use	Enterococci (colonies per 100mL)
Steady State (all areas)	35
Maximum (designated beach)	104
Maximum (moderately or lightly used area)	276
Maximum (infrequently used area)	500

The Basin Plan establishes numeric water quality objectives for fecal coliform in waters designated for contact recreation. The Basin Plan states the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 ml.

The Basin Plan establishes numeric water quality objectives for total coliform in waters where shellfish harvesting for human consumption, commercial, or sports purposes. The Basin Plan states that the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

The Basin Plan establishes narrative water quality objectives for turbidity. The Basin Plan states *Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses*. Numeric water quality criteria for turbidity have been derived from Table A of the Ocean Plan.

The Basin Plan specifies that waters shall not contain suspended solids and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses. Water quality criteria for settleable solids have been continued from the current permit. The current Order establishes effluent limitations for suspended solids based on the concentration contained within the intake water.

Section 4 of the Thermal Plan specifies narrative waste discharge requirements for temperature into enclosed bays.

Effluent limitations for halomethanes have been removed based on an analysis of the data submitted to this Regional Board during the current permit term. Halomethanes are defined in the current permit as the sum of bromoform, methyl bromide, methyl chloride, chlorodibromomethane, and dichlorobromomethane. In accordance with Section 1.3 of the SIP, a reasonable potential analysis (RPA) was performed based on water quality objectives outlined in the CTR, NTR, and Basin Plan. Based on the results of the RPA, the Discharger does not demonstrate reasonable potential to exceed water quality objectives for bromoform, methyl bromide, methyl chloride, chlorodibromomethane, and dichlorobromomethane. Further, semi-annual monitoring data submitted by the Discharger indicates that the established effluent limitations for halomethanes were not exceeded for the current permit. Thus, based on new data, and in compliance with State and Federal Anti-Backsliding regulations (Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR §122.44(l)), the current effluent limitation for halomethanes has not been continued to this Order.

3. Determining the Need for WQBEL

In accordance with Section 1.3 of the SIP, a RPA was conducted for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the Order. This Regional Board analyzed effluent and receiving water data to determine if a pollutant in a discharge has the reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that have the reasonable potential to cause or contribute to an excursion above a water quality standard, numeric WQBEL are required. The RPA evaluates water quality objectives specified in the CTR, NTR, and Basin Plan. To conduct the RPA, this Regional Board identified the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent, based on data provided by the Discharger in its NPDES permit application.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three process analysis to complete a RPA:

- a. Process Analysis 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
- b. Process Analysis 2 – If $MEC < C$ and background water quality $(B) > C$, a limit is needed.
- c. Process Analysis 3 – If other related information determines the need for WQBEL.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for this Regional Board to conduct the RPA. Upon review of the data, and if this Regional Board determines that WQBEL are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants for which effluent data were available. These data were used in the RPA and are summarized in Attachment H for Outfall Nos. 001 and 002.

Based on the RPA, there is reasonable potential to exceed water quality standards at both Outfall Nos. 001 and 002 for copper and silver. Effluent limitations and effluent monitoring requirements for copper and silver have been revised in accordance with the SIP.

4. WQBEL Calculations

- a. Water quality based effluent limits are based on monitoring results and use the calculation process outlined in Section 1.4 of the SIP. WQBEL calculations are summarized in Attachment H.
- b. WQBELS Calculation Example

The process for developing WQBEL for copper according to Section 1.4 of the SIP is shown in *Example 1. WQBEL Calculations According to the SIP*. Attachment H summarizes the development and calculation of all water quality-based effluent limitations for this Order using the process described below.

Example 1. WQBEL Calculations According to the SIP.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion determine the effluent concentration allowance (ECA) using the following equation:

$$\begin{aligned} \text{ECA} &= C + D(C-B) && \text{when } C > B, \text{ and} \\ \text{ECA} &= C && \text{when } C \leq B, \end{aligned}$$

Where C = The priority pollutant criterion/objective,
 D = The dilution credit, and
 B = The ambient background concentration

As discussed below, for this Order, a dilution factor of 21:1 was used to calculate the effluent limitations established for copper and silver. Further, a background concentration of 1.69 µg/L was reported in the CTR data submitted with the NPDES permit application package. Therefore for copper:

$$\text{ECA} = 5.78 \mu\text{g/L} + (21)(5.78 \mu\text{g/L} - 1.69 \mu\text{g/L})$$

For copper the applicable water quality criteria are (reference Attachment H):

$ECA_{acute} = 91.67 \text{ } \mu\text{g/L}$
 $ECA_{chronic} = 46.57 \text{ } \mu\text{g/L}$
 $ECA_{human \text{ health}} = \text{Not applicable}$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} * Multiplier_{acute}$$

$$LTA_{chronic} = ECA_{chronic} * Multiplier_{chronic}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples	CV	<u>Multiplier_{acute}</u>	<u>Multiplier_{chronic}</u>
<4	0.6	0.321	0.527

$$LTA_{acute} = 91.67 \text{ } \mu\text{g/L} * 0.321 = 29.43 \text{ } \mu\text{g/L}$$

$$LTA_{chronic} = 46.57 \text{ } \mu\text{g/L} * 0.527 = 24.56 \text{ } \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For copper, the most limiting LTA was the $LTA_{chronic}$

$$LTA = 24.56 \text{ } \mu\text{g/L}$$

Step 4: Calculate the water quality based effluent limits by multiplying the LTA by a factor (multiplier). Water quality-based effluent limits are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitation

(MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedence frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the sample frequency (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the sample frequency. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{\text{aquatic life}} = LTA * AMEL_{\text{multiplier}}$$

$$MDEL_{\text{aquatic life}} = LTA * MDEL_{\text{multiplier}}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP:

No. of Samples	CV	<u>Multiplier_{MDEL}</u>	<u>Multiplier_{AMEL}</u>
<4	0.6	3.11	1.55

$$AMEL_{\text{aquatic life}} = 24.56 \mu\text{g/L} * 1.55 = 38.13 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 24.56 \mu\text{g/L} * 3.11 = 76.50 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the ECA_{human health}

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

For copper in this receiving water, the ECA_{human health} is not applicable:

$$AMEL_{\text{human health}} = \text{Not applicable}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} * (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

If human health criteria were applicable for copper in the receiving water, the following data would be used to develop the $MDEL_{\text{human health}}$:

No. of Samples	CV	Multiplier_{MDEL}	Multiplier_{AMEL}	Ratio
<4	0.6	3.11	1.55	2.01

$MDEL_{\text{human health}}$ = Not applicable

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

For copper:

$\text{AMEL}_{\text{aquatic life}}$	$MDEL_{\text{aquatic life}}$	$\text{AMEL}_{\text{human health}}$	$MDEL_{\text{human health}}$
38.13 µg/L	76.50 µg/L	N/A	N/A

The lowest (most restrictive) effluent limitations in this example are for aquatic life criteria and are specified in this Order. The SIP calculated WQBEL for copper and silver are listed in *Table 10. Summary of Water Quality-Based Effluent Limitations*.

Table 10. Summary of Water Quality-Based Effluent Limitations.

Constituent	Units	Calculated Effluent Limitations	
		Average Monthly	Daily Maximum
Copper	µg/L	38.13	76.50
Silver	µg/L	23.16	46.46

c. Effluent Limitations based on the Ocean Plan.

Beneficial uses to Mission Bay are similar to those of the ocean waters of the State. In order to protect the beneficial uses of Mission Bay, discharge specifications for oil and grease, turbidity, settleable solids, and chronic toxicity in this Order were derived from the Ocean Plan.

The process for developing WQBEL according to the Ocean Plan is shown in *Example 2. WQBEL Calculations According to the Ocean Plan*.

Example 2. WQBEL Calculations According to the Ocean Plan.

For each constituent requiring an effluent limit, identify the applicable water quality effluent limitation contained in Table B of the Ocean Plan. Effluent limitations for water quality objectives listed in Table B, with the exception of acute toxicity and radioactivity, may be determined through the use of the follow equation:

$$C_e = C_o + D_m (C_o - C_s)$$

Where C_e = The effluent concentration limit
 C_o = The concentration (water quality objective) to be met at the completion of initial dilution
 C_s = Background seawater concentration
 D_m = Minimum probable initial dilution expressed as parts seawater per part wastewater.

As discussed below, for this Order, dilution factor of 21:1 was used to calculate the effluent limitations established for chronic toxicity and chlorine residual. Further, no background concentration of chronic toxicity was established. Therefore for chronic toxicity:

$$C_e = 1 \text{ TUc} + (21)(1 \text{ TUc} - 0 \text{ TUc})$$

Thus, for chronic toxicity the applicable water quality criteria is:

$$C_e = 22 \text{ TUc}$$

d. Mass-Based Limitation Calculation Example.

In compliance with 40 CFR section 122.45(f), mass-based limitations have also been established in this Order for conventional, nonconventional, and toxic pollutants. Generally, mass-based limitations ensure that proper treatment, and not dilution is employed to comply with the final effluent concentration limitations. The mass-based effluent limitations contained in this Order are based on a maximum total discharge flow rate of 3.24 MGD, established for Outfall No. 001 and a maximum total discharge flow rate of 6.12 MGD established for Outfall No. 002. When calculating the mass-based limitations for discharges, the appropriate flow, daily maximum limitations for daily maximum mass calculations, and the monthly average limitations when calculating the monthly average mass, should be substituted in the following equation:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where: mass = mass limitation for a pollutant (lbs/day)
 effluent limitation = concentration limitation for a pollutant (mg/L)
 flow rate = discharge flow rate (MGD)

Using copper's monthly average effluent limitation for Outfall No. 001 as an example, the following equation demonstrates how water quality based effluent limits were established for this Order.

$$\text{Mass (lbs/day)} = 3.24 \text{ (MGD)} * 8.34 * 0.03813 \text{ (mg/L)} = 1.0 \text{ lbs/day}$$

In compliance with the procedures specified in 40 CFR 122.45(f), and outlined in this Fact Sheet, the WQBEL summarized in *Table 11. Summary of WQBEL for Outfall No. 001 (East) -- Monitoring Location 001* and *Table 12. Summary of WQBEL for Outfall No. 002 (West) -- Monitoring Location 002* have been established in this Order.

Table 11. Summary of WQBEL for Outfall No. 001 (East) -- Monitoring Location 001.

Parameter	Units	Effluent Limitations					Basis ¹
		6 Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	units	--	--	--	7.0	9.0	CO, BP
Oil and Grease	mg/L	--	25	--	--	75	OP
	lbs/day ²	--	676	--	--	2,026	
Turbidity	NTU	--	75	--	--	225	OP
Settleable Solids	ml/L	--	1.0	--	--	3.0	OP
Suspended Solids	mg/L	Narrative ³					BP
Ammonia	mg/L	--	--	--	--	0.55	BP
	lbs/day ²	--	--	--	--	15	
Chlorine Residual	mg/L	--	0.21	--	--	0.42	CO
	lbs/day ²	--	5.7	--	--	11.3	
Copper ⁴	µg/L	24	38.13	76.5	--	--	CO, SIP
	lbs/day ²	0.65	1.0	2.1	--	--	
Silver ⁴	µg/L	6.5	23.16	36	--	--	CO, SIP
	lbs/day ²	0.2	0.6	1.0	--	--	
Enterococcus	CFU/100 mL	--	35	--	--	104	BP
Fecal Coliform	MPN/100 mL	Narrative ⁵					BP
Total Coliform	MPN/100 mL	Narrative ⁶					BP
Acute Toxicity ⁷	TUa	--	1.5	--	--	2.5	CO
Chronic Toxicity ⁸	TUc	--	--	22	--	--	OP

1 CO = Current Order; BP = Basin Plan; OP = Ocean Plan; SIP = State Implementation Policy

2 Mass-based effluent limitations have been calculated based on a maximum flow value of 3.24 MGD.

3 The discharge of aquaria wastewater through Outfall No. 001 shall not cause an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum in the concentration of total suspended solids when compared to the intake water.

4 Metals are expressed as total recoverable.

- 5 The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.
- 6 The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three tube dilution test is used.

Table 12. Summary of WQBEL for Outfall No. 002 (West) -- Monitoring Location 002.

Parameter	Units	Effluent Limitations					Basis ¹
		6 Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	units	--	--	--	7.0	9.0	CO, BP
Oil and Grease	mg/L	--	25	--	--	75	OP
	lbs/day ²	--	1,276	--	--	3,828	
Turbidity	NTU	--	75	--	--	225	OP
Settleable Solids	ml/L	--	1.0	--	--	3.0	OP
Suspended Solids	mg/L	Narrative ³					BP
Ammonia	mg/L	--	--	--	--	0.55	BP
	lbs/day ²	--	--	--	--	28.1	
Chlorine Residual	mg/L	--	0.21	--	--	0.42	CO
	lbs/day ²	--	10.7	--	--	21.4	
Copper ⁴	µg/L	24	38.13	76.5	--	--	CO, SIP
	lbs/day ²	1.2	1.9	3.9	--	--	
Silver ⁴	µg/L	6.5	23.16	36	--	--	CO, SIP
	lbs/day ²	0.33	1.2	1.8	--	--	
Enterococcus	CFU/100 mL	--	35	--	--	104	BP
Fecal Coliform	MPN/100 mL	Narrative ⁵					BP
Total Coliform	MPN/100 mL	Narrative ⁶					BP
Acute Toxicity ⁷	TUa	--	1.5	--	--	2.5	CO
Chronic Toxicity ⁸	TUc	--	--	22	--	--	OP

- 1 CO = Current Order; BP = Basin Plan; OP = Ocean Plan; SIP = State Implementation Policy
- 2 Mass-based effluent limitations have been calculated based on a maximum flow value of 3.24 MGD.
- 3 The discharge of aquaria wastewater through Outfall No. 002 shall not cause an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum in the concentration of total suspended solids when compared to the intake water.
- 4 Metals are expressed as total recoverable.
- 5 The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.
- 6 The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube dilution test is used.

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative *no toxics in toxic amounts* criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances that produce detrimental responses in aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. The Basin Plan further dictates that compliance with the toxicity objective shall, at a minimum be evaluated with a 96-hour acute bioassay and effluent limitations based upon acute bioassays of effluents be prescribed where appropriate.

- a. This Order continues the acute toxicity effluent limitations from the current Order.

Acute toxicity is calculated using the following formula:

$$TU_a = \frac{100}{96 - hr LC 50\%}$$

Where Lethal Concentration 50% (LC 50) shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the aquatic environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substance.

$$TU_a = \frac{\text{Log } (100 - S)}{1.7}$$

Where:

S = percentage survival in 100% waste
If S > 99, TUa shall be reported as zero

Compliance with the acute toxicity effluent limitation shall be determined by short-term (acute) toxicity tests on undiluted effluent using an established protocol, e.g., American Society for Testing and Materials (ASTM), American Public Health Association, U.S. EPA, or SWRCB.

- b. The Basin Plan does not specify numeric limitations for chronic toxicity. The current Order established daily maximum chronic toxicity effluent limitations based on effluent limitations contained in Table B of the Ocean Plan of 22 TU_c.

The WET limit was calculated using Equations 1 and 2 of Section III.C.3 (Implementation Provisions for Table B) of the Ocean Plan, with a D_m value of 21.

The 2001 Ocean Plan establishes numeric objectives for chronic toxicity in Section II.D., Table B, with a chronic toxicity daily maximum effluent objective of 1.0 (TU_c). The minimal initial dilution has been determined and a dilution credit of 21:1 has been applied to this discharge. The Discharger shall meet the chronic toxicity effluent limitation after initial dilution of the effluent has taken place.

Chronic toxicity is calculated using the following formula:

$$TU_c = \frac{100}{NOEL}$$

Where: No Observed Effect Level (NOEL) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test as listed in Appendix II of the 2001 Ocean Plan.

If toxicity effluent limitations established in the Order are exceeded, then, within 15 days of the exceedence, the Discharger shall begin conducting six additional toxicity tests over a six-month period and provide the results to this Regional Board. If the additional monthly toxicity tests indicate that toxicity effluent limitations are being consistently violated, this Regional Board may require the Discharger to complete a toxicity reduction evaluation (TRE) and Toxic Identification Evaluation (TIE).

D. Final Effluent Limitations

Section 402(o) of the Clean Water Act and 40 CFR 122.44(l) require that effluent limitations standards or conditions in reissued permits be at least as stringent as those in the existing permit.

The Discharger has installed pipe reducers at each of the two submerged discharge outfall pipes. The reducers increase the initial zone of dilution to 21:1 for each of the discharge

outfalls. Thus a dilution factor of 21:1 has been continued from the current Order for discharges from Outfall Nos. 001 and 002 for chronic toxicity, ammonia, chlorine residual copper, and silver.

Effluent limitations for copper and silver have been calculated according to the requirements contained in sections 1.3 and 1.4 of the SIP. The current Order does not contain monthly average effluent limitations for either copper or silver as required by the SIP, thus monthly average effluent limitations for copper and silver have been established in the Order. Further, the SIP-calculated daily maximum effluent limitations for copper and silver were compared to the current daily maximum effluent limitations contained in the current Order. The more stringent of the two limits was determined and established in this Order. Because the SIP-calculated daily maximum effluent limitation was more stringent than the current established daily maximum effluent limitation, thus the SIP-calculated daily maximum was established in this Order for copper. The current established daily maximum effluent limitation for silver was more stringent than the SIP-calculated daily maximum effluent limitation, thus the current daily maximum effluent limitation was continued to this Order. The SIP does not establish a procedure for establishing 6-month median and instantaneous maximum effluent limitations, thus the current 6-month median and instantaneous maximum effluent limitations for copper and silver were continued from the current Order.

The effluent limitation for ammonia, pH, enterococcus, fecal coliform, and total coliform have been continued from the current permit and are consistent with the requirements contained within Chapter 3 of the Basin Plan.

The Basin Plan establishes narrative water quality objectives for oil and grease. The effluent limitations for oil and grease have been continued from the current permit and are consistent with effluent limitations contained within Table A of the Ocean Plan.

The effluent limitations for turbidity were continued from the current permit and are consistent with effluent limitations contained within Table A of the Ocean Plan.

The Basin Plan contains narrative objectives for total residual chlorine. Numeric effluent limitations for residual chlorine were calculated using the effluent limitations contained within Table B of the Ocean Plan and compared to the current established effluent limitations. The current established effluent limitations were more stringent. Thus, in compliance with State and Federal Anti-Backsliding regulations (Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR §122.44(l)), the current established (and more stringent) effluent limitations for residual chlorine have been continued in this Order.

The Basin Plan specifies that waters shall not contain suspended solids and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses. Water quality criteria for settleable solids have been continued from the current permit and are consistent with the effluent limitations in Table A of the Ocean Plan. Table A of the Ocean Plan establishes a narrative effluent limitation for suspended solids, which states, *Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent*

stream before discharging wastewaters to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

The current Order establishes effluent limitations for suspended solids based on the concentration contained within the intake water.

Suspended solids data submitted by the Discharger to this Regional Board indicates normal intake discharge concentrations of well below 60 mg/L. The intake-based effluent limitations for suspended solids are consistently more stringent than 60 mg/L. Effluent limitations based on the intake, such as the current limitations, will be more protective of water quality than the effluent limitations for suspended solids contained within Table A of the Ocean Plan. Thus, the intake-based effluent limitations for suspended solids have been continued to this Order. The narrative portion of the effluent limitation has been revised. The current narrative portion of the effluent limitation stated, *The Discharger shall also remove 75% of the suspended solids from the influent stream any time that the influent suspended solids concentrations exceed four times the effluent limits [proposed in the current Order and based on intake concentrations]*.

Because effluent limitations in the current Order were based on intake concentrations, it is not possible that the influent concentration of suspended solids exceed the effluent limitations contained within the current Order. Thus, this narrative portion of the effluent limitation for suspended solids has been removed for clarity and consistency.

The Basin Plan establishes narrative water quality objectives for toxicity. The Basin Plan states that all waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Ocean Plan establishes numeric effluent limitations for acute toxicity and chronic toxicity. The chronic toxicity effluent limitation from the Ocean Plan has been established in this Order. The acute toxicity effluent limitation was not considered for implementation into this Order because the Ocean Plan does not specify a method to calculate effluent limitations for acute toxicity for discharges with a dilution a ratio of less than 24:1. Thus, the acute toxicity effluent limitation from the current Order has been continued in this Order.

Effluent limitations for halomethanes have been removed based on an analysis of the data submitted to this Regional Board during the current permit term. Thus, based on new data, and in compliance with State and Federal Anti-Backsliding regulations (Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR §122.44(l)), the current effluent limitation for halomethanes have not been continued to this Order.

The proposed effluent limitations for this Order are listed in *Table 13. Effluent Limitations for Outfall No. 001 (East)* and *Table 14. Effluent Limitations for Outfall No. 002 (West)*.

Table 13. Effluent Limitations for Outfall No. 001 (East).

Parameter	Units	Effluent Limitations					Basis ¹
		6 Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	--	3.24	--	--	Design Capacity
pH	units	--	--	--	7.0	9.0	CO, BP
Oil and Grease	mg/L	--	25	--	--	75	OP
	lbs/day ²	--	676	--	--	2,026	
Turbidity	NTU	--	75	--	--	225	OP
Settleable Solids	ml/L	--	1.0	--	--	3.0	OP
Suspended Solids	mg/L	Narrative ³					BP
Ammonia	mg/L	--	--	--	--	0.55	BP
	lbs/day ²	--	--	--	--	15	
Chlorine Residual	mg/L	--	0.21	--	--	0.42	CO
	lbs/day ²	--	5.7	--	--	11.3	
Copper ⁴	µg/L	24	38.13	76.5	--	--	CO, SIP
	lbs/day ²	0.65	1.0	2.1	--	--	
Silver ⁴	µg/L	6.5	23.16	36	--	--	CO, SIP
	lbs/day ²	0.2	0.6	1.0	--	--	
Enterococcus	CFU/100 mL	--	35	--	--	104	BP
Fecal Coliform	MPN/100 mL	Narrative ⁵					BP
Total Coliform	MPN/100 mL	Narrative ⁶					BP
Acute Toxicity ⁷	TUa	--	1.5	--	--	2.5	CO
Chronic Toxicity ⁸	TUc	--	--	22	--	--	OP

1 CO = Current Order; BP = Basin Plan; OP = Ocean Plan; SIP = State Implementation Policy

2 Mass-based effluent limitations have been calculated based on a maximum flow value of 3.24 MGD.

3 The discharge of aquaria wastewater through Outfall No. 001 shall contain not cause an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum, of the concentration of total suspended solids when compared to the intake water.

4 Metals are expressed as total recoverable.

5 The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.

6 The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube dilution test is used.

Table 14. Effluent Limitations for Outfall No. 002 (West).

Parameter	Units	Effluent Limitations					Basis ¹
		6 Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	--	6.12	--	--	Design Capacity
pH	units	--	--	--	7.0	9.0	CO, BP
Oil and Grease	mg/L	--	25	--	--	75	OP
	lbs/day ²	--	1,276	--	--	3,828	
Turbidity	NTU	--	75	--	--	225	OP
Settleable Solids	ml/L	--	1.0	--	--	3.0	OP
Suspended Solids	mg/L	Narrative ³					BP
Ammonia	mg/L	--	--	--	--	0.55	BP
	lbs/day ²	--	--	--	--	28.1	
Chlorine Residual	mg/L	--	0.21	--	--	0.42	CO
	lbs/day ²	--	10.7	--	--	21.4	
Copper ⁴	µg/L	24	38.13	76.5	--	--	CO, SIP
	lbs/day ²	1.2	1.9	3.9	--	--	
Silver ⁴	µg/L	6.5	23.16	36	--	--	CO, SIP
	lbs/day ²	0.33	1.2	1.8	--	--	
Enterococcus	CFU/100 mL	--	35	--	--	104	BP
Fecal Coliform	MPN/100 mL	Narrative ⁵					BP
Total Coliform	MPN/100 mL	Narrative ⁶					BP
Acute Toxicity	TUa	--	1.5	--	--	2.5	CO
Chronic Toxicity	TUc	--	--	22	--	--	OP

- 1 CO = Current Order; BP = Basin Plan; OP = Ocean Plan; SIP = State Implementation Policy
- 2 Mass-based effluent limitations have been calculated based on a maximum flow value of 3.24 MGD.
- 3 The discharge of aquaria wastewater through Outfall No. 002 shall not contain an increase in excess of 10 mg/L for a monthly average or 15 mg/L for a daily maximum in the concentration of total suspended solids when compared to the intake water. Metals are expressed as total recoverable.
- 4 The fecal coliform concentration based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 mL, nor shall more than 10 percent of total samples during any 30-day period exceed 400/100 mL.
- 5 The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 mL nor shall more than 10 percent of the samples collected during any 30-day period exceed 230/100 mL for a five-tube decimal dilution test or 330/100 mL when a three-tube dilution test is used.

E. Interim Effluent Limitations (Not Applicable)

F. Land Discharge Specifications (Not Applicable)

G. Reclamation Specifications (Not Applicable)

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Narrative and numerical receiving water limitations have been established in Order No. R9-2005-0091 based on water quality objectives specified in Chapter 3 of the Basin Plan and the Ocean Plan to ensure the reasonable protection of beneficial uses and the prevention of nuisance.

A. Surface Water

The discharge of waste through Outfall Nos. 001 and 002 shall not cause violation of the Basin Plan water quality objectives, and the Ocean Plan water quality objectives specified in this Order. Compliance with the water quality objectives shall be determined, if needed, from samples collected at stations representative of the area determined by this Regional Board to be affected by the discharges.

B. Groundwater (Not Applicable)

VI. MONITORING AND REPORTING REQUIREMENTS

Pursuant to 40 CFR 122.48 all NPDES permits are required to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Boards to request technical and monitoring reports. Monitoring and Reporting Program (MRP) No. R9-2005-0091 establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in MRP No. R9-2005-0091.

A. Influent Monitoring

The current MRP No. 2000-25 requires weekly monitoring for total coliform and fecal coliform; and quarterly monitoring for suspended solids.

Influent sampling stations are established at each intake location where representative samples of the influent are obtained. Influent samples are collected on the same day as the collection of the effluent samples to help determine compliance with the effluent limitations.

Weekly influent monitoring shall be established for total coliform, fecal coliform, enterococcus. Quarterly influent monitoring shall be established for suspended solids.

The influent monitoring requirements of the MRP No. R9-2005-0091 are listed in *Table 15. Influent Monitoring Requirements*.

Table 15. Influent Monitoring Requirements.

Constituent ¹	Units	Sample Type	Frequency
Total Coliform	MPN/100 mL	Grab	Weekly
Fecal Coliform	MPN/100 mL	Grab	Weekly
Enterococcus	MPN/100 mL	Grab	Weekly
Suspended Solids	mg/L	24-hr. composite	Quarterly

B. Effluent Monitoring

The current MRP, MRP No. 2000-25, requires continuous monitoring for flow; weekly monitoring for pH, total coliform, fecal coliform, enterococcus, and total chlorine residual; monthly monitoring for temperature; quarterly monitoring for suspended solids, and settleable solids; semi-annual monitoring for halomethanes, grease and oil, turbidity, silver, copper, and ammonia; annual monitoring for acute toxicity; and monitoring for chronic toxicity once every five years.

Continuous monitoring for flow; weekly monitoring for pH, total coliform, fecal coliform, enterococcus, and total chlorine residual; monthly monitoring for temperature; quarterly monitoring for suspended solids, and settleable solids; semi-annual monitoring for grease and oil, turbidity, silver, copper, and ammonia; annual monitoring for acute toxicity; and monitoring for chronic toxicity once every five years has been continued in the MRP.

Monitoring for halomethanes has not been continued in the MRP.

Effluent monitoring requirements of MRP No. R9-2005-0091 are listed in *Table 16. Effluent Monitoring Requirements*. MRP No. R9-2005-0091 should be reviewed for greater detail regarding specific monitoring requirements.

Table 16. Effluent Monitoring Requirements.

Constituent ¹	Units	Sample Type	Frequency
Flow	MGD	Continuous	Continuous
pH	Units	Grab/Continuous	Weekly
Total Coliform	MPN/100 mL	Grab	Weekly
Fecal Coliform	MPN/100 mL	Grab	Weekly
Enterococcus	CFU/100 mL	Grab	
Residual Chlorine	µg/L	Grab/Continuous	Weekly
	Lbs/day ³	Calculated ³	
Temperature	°F	Grab/Continuous	Monthly
Suspended Solids	mg/L	24 hr. composite	Quarterly
	Lbs/day ³	Calculated ³	
Settleable Solids	ml/L	Grab	Quarterly
Grease and Oil	mg/L	Grab	Semi-annual
	Lbs/day ³	Calculated ³	
Turbidity	NTU	24 hr. composite	Semi-annual
Copper ²	µg/L	24 hr. composite	Semi-annual
	Lbs/day ³	Calculated ³	
Silver ²	µg/L	24 hr. composite	Semi-annual
	Lbs/day ³	Calculated ³	
Ammonia	mg/L	24 hr. composite	Semi-annual
	Lbs/day ³	Calculated ³	
Acute Toxicity	TUa	24 hr composite	Annual
Chronic Toxicity ⁴	TUc	24 hr composite	Once over the term of the permit.

¹ All parameters shall be analyzed by the methods specified in 40 CFR 136.3.

² All metals shall be expressed as total recoverable.

³ Lbs/day shall be calculated by the discharger for each monitoring event using the following formula:

$$\text{Lbs/day} = 0.00834 * \text{effluent concentration limit (ug/L)} * Q$$

where:

Q = flow rate, million gallons per day (MGD)

⁴ Chronic toxicity results are due one year prior to the expiration date of the permit.

All monitoring procedures (including whole effluent toxicity testing procedures) must comply with monitoring procedures specified in the Basin Plan or 40 CFR 136.3.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity testing shall be conducted by the methods specified in Section IV.C.5. of this Fact Sheet and Section V of MRP No. R9-2005-0091.

D. Receiving Water Monitoring

1. Surface Water

- a. Pursuant to the California Water Code, Section 13267, the Discharger is required to submit data sufficient for: (1) determining if water quality-based effluent limitations for priority pollutants are required, and (2) to calculate effluent limitations, if required. The *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (March 2, 2000) requires that the Regional Boards require periodic monitoring for which criteria or objectives apply and for which no effluent limitations have been established. Accordingly this Regional Board is requiring that the Discharger conduct receiving water monitoring for the priority pollutants once over the term of the permit, as specified in Section IX of Monitoring and Reporting Program R9-2005-0091 and further explained in Section VII.B.2.b. of this Fact Sheet.
- b. The Discharger shall conduct daily visual observations of all storm water discharges during regular operational hours for all storm water by-pass discharge locations to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity and odor. The presence/absence of each of these parameters shall be documented for each storm water discharge location.

2. Groundwater (Not Applicable)

E. Other Monitoring Requirements

1. Periodic visual inspections of a facility are necessary to ensure that the Storm Water Pollution Prevention Plan (SWPPP) identify any significant changes to the facility's operations or BMP implementation procedures. Visual storm water observations shall be conducted as specified in Section 8.b.ix.1. of Attachment I as part of the SWPPP requirements. Section 8.b.ix.1. of Attachment I requires a minimum of four quarterly visual inspections of all storm water drainage areas and associated potential pollutant sources shall be completed each reporting year.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

B. Special Provisions

1. Re-Opener Provisions

- a. This Order may be re-opened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge by this Regional Board.
- b. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
- c. This Order may be re-opened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new minimum level (ML).
- d. This Order may be re-opened and modified to revise effluent limitations because of Basin Plan Amendments, such as an update of an objective or the adoption of a Total Maximum Daily Load (TMDL).
- e. This Order may be re-opened upon submission of adequate information by the Discharger, as determined by this Regional Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- f. This Order may also be re-opened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies and Additional Monitoring Requirements

Core monitoring may include intake monitoring, effluent monitoring, receiving water monitoring, and groundwater monitoring. This Order includes core monitoring for influent and effluent. In addition to core monitoring requirements, the Discharger may be required to conduct additional monitoring. Special studies are intended to be short-term and designed to address specific research or management issues that are not addressed by the routine core monitoring program. The Discharger shall implement special studies as directed by this Regional Board.

- a. The Discharger shall participate and coordinate with state and local agencies and other dischargers in the San Diego Region in development and implementation of a regional monitoring program for Mission Bay as directed by this Regional Board. The intent of a regional monitoring program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled resources of the region. During a coordinated sampling effort,

the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of discharges to the receiving water.

- b. This Order will combine the periodic reporting requirements of the SIP with the existing permit monitoring requirements. This Regional Board is requiring, as part of the MRP, that the Discharger conduct effluent monitoring for the priority pollutants for which there are no effluent limitations established in the permit at least once over the term of this permit. In addition, this Regional Board is requiring that the Discharger conduct receiving water monitoring for the priority pollutants at the same time effluent samples are collected. Further, the Discharger must analyze pH and hardness of the receiving water concurrent with the analysis for the priority pollutants.

This monitoring shall be conducted at the following locations:

- i. Effluent Outfalls (Outfall Nos. 001 and 002).
- ii. Receiving water. The monitoring locations shall be at least 50 feet from the Outfalls to Mission Bay.

The Discharger shall conduct CTR monitoring once during the term of the permit as established in Section XI.2.B. of the Waste Discharge Requirements and Section IV.A. of the MRP. Monitoring shall be conducted February 1, 2009 and July 31, 2009. The results of this CTR monitoring data shall be submitted at least 180 days prior to the expiration date of this Order and shall be submitted with the Report of Waste Discharge.

- c. Because storm water may mix or commingle with other waste waters, and because the Discharger conducts chlorination at various locations throughout the storm water/wastewater collection system, the Discharger shall conduct sampling of storm water by-passes from the Facility to evaluate the presence of potential pollutants. Within two years after the adoption date of Order No. R9-2005-0091, the Discharger shall conduct two monitoring events of the storm water by-pass discharge points during active storm water by-passes. Sampling shall be conducted at representative storm water discharge locations during normal operational hours. The results of the storm water by-pass monitoring shall be submitted to this Regional Board no later than 90 days following the second sampling event. The Discharger shall collect grab samples for all pollutants specified in *Table 17. Storm Water By-Pass Sampling*.

Table 17. Storm Water By-Pass Sampling.

Pollutant	Unit	Sample Type
pH	Units	Grab
Temperature	°F	Grab
Total Coliform	MPN/100 mL	Grab
Fecal Coliform	MPN/100 mL	Grab
Enterococcus	CFU/100 mL	Grab
Residual Chlorine	µg/L	Grab
Suspended Solids	mg/L	Grab
Settleable Solids	ml/L	Grab
Grease and Oil	mg/L	Grab
Turbidity	NTU	Grab
Silver	µg/L	Grab
Copper	µg/L	Grab
Ammonia	mg/L	Grab

3. Best Management Practices and Pollution Prevention

- a. The Discharger shall establish and implement a best management practices (BMP) plan to reduce pollution to Mission Bay and minimize pollutants contact with storm water. The best management practices shall be continued from the current Order. The following BMP shall be conducted to maximize capture and treatment of any wastewater, and reduce or eliminate any mixing with storm water:
 - i. Aquaria and pool draining activities shall be halted during a storm water by-pass discharge event.
 - ii. All paved areas shall be swept down periodically to minimize storm water pollutant loading into Mission Bay.
 - iii. A periodic wash down following the periodic sweep is authorized. Care shall be taken to direct as much of the wash-down as possible into the treatment system.
- b. The Discharger shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) Requirements as specified in Attachment I of Order No. R9-2005-0091. The SWPPP shall incorporate the BMP established in Section VII.B.3.a. of this Fact Sheet.

4. Compliance Schedules (Not Applicable)

5. Construction, Operation, and Maintenance Specifications (Not Applicable)

6. Special Provisions for Municipal Facilities (POTW only) (Not Applicable)

VIII. PUBLIC PARTICIPATION

This Regional Board is considering the issuance of waste discharge requirements (WDR) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for SeaWorld San Diego. This Regional Board has developed WDR. This Regional Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

This Regional Board has notified the Discharger and interested agencies and persons of its intent to adopt waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in the San Diego Union Tribune on Friday March 11, 2005.

IX. WRITTEN COMMENTS

Interested persons are invited to submit written comments regarding the WDR. Comments should be submitted either in person or by mail, during business hours, to:

John H Robertus, Executive Officer
Attn: Industrial Compliance Unit
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, California 92123

To ensure that this Regional Board has the opportunity to fully consider written material, comments regarding Order No. R9-2005-0091 should be received in the Regional Board's office no later than 5:00 p.m. on March 30, 2005. Written material submitted after 5:00 p.m. on April 6, 2005 will not be provided to the Regional Board members and will not be considered by this Regional Board. Oral comments will be received at the hearing on April 13, 2005.

X. PUBLIC HEARING

In accordance with 40 CFR 124.10, this Regional Board must issue a public notice whenever NPDES permits have been prepared, and that the permits will be brought before this Regional Board at a public hearing. The public notice has been published in San Diego Union Tribune no less than 30 days prior to the scheduled public hearing.

Order No. R9-2005-0091, will be considered by this Regional Board at a public hearing beginning at 9:00 a.m. on April 13, 2005. The location of this meeting is as follows:

Date: **April 13, 2005**
Time: **9:00 a.m.**
Location: **Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, California 92123**

XI. INFORMATION AND COPYING

For additional information, interested persons may write the following address or contact Mr. Paul J. Richter of the Regional Board by e-mail at **prichter@waterboards.ca.gov** or by phone at (858) 627-3929.

Regional Water Quality Control Board, San Diego Region
Attn: ICU
9174 Sky Park Court, Suite 100
San Diego, California 92123

Copies of the applications, NPDES waste discharge requirements, and other documents (other than those that the Executive Officer maintains as confidential) are available at the Regional Board office for inspections and copying according to the following schedule (excluding holidays):

Monday and Thursday:	1:30 p.m. to 4:30 p.m.
Tuesday and Wednesday:	8:30 a.m. to 11:30 a.m. 1:30 p.m. to 4:30 p.m.
Friday:	8:30 a.m. to 11:30 p.m.

An electronic copy of the Fact Sheet and Order can be accessed on the Regional Board web site: <http://www.waterboards.ca.gov/sandiego>.

XII. REGISTER OF INTERESTED PERSONS

Any person interested in being placed on the mailing list for information regarding the WDR and NPDES permit should contact this Regional Board, reference this Facility, and provide a name, address, and phone number.